

Applicant: Gan et al.
Application No.: 10/654,307

REMARKS/ARGUMENTS

Claims 1-15 are currently pending in this application.

Claims 1 and 6-13 were rejected under 35 U.S.C. §102(b) as being anticipated by Majid et al. (US Patent No. 5,852,550) ('550 Patent). Applicants respectfully traverse this rejection.

Applicants respectfully submit that the proposed power supply having a first operation mode and a second operation mode, and including a main circuit having at least one output port, a first control circuit, a second control circuit, and a switching controller processing a control signal to control the first control circuit and the second control circuit to one of the first operation mode and the second control mode in response to a load status of the output port, as recited in Claim 1 of the present application, is not anticipated by the '550 Patent. The discussion below supports this conclusion.

(1) The '550 Patent fails to suggest or disclose a switching controller processing a control signal to control a first control circuit and a second control circuit to one of a first operation mode and a second control mode in response to a load status of an output port, as recited in Claim 1.

(2) The '550 Patent does not anticipate/teach/suggest that a switching controller is employed to control a first control circuit and a second control circuit in response to a load status of the output port. The '550 Patent discloses only a power supply

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circuit including a first controller for controlling power to a main power output through a first transformer, and a second controller for controlling power to a main power output through a second transformer, the second controller turning off the first controller. The second controller only operates to effect a very low power stand-by mode. The second controller detects a selectively coupled load across the control output and turns on the first controller thereby effecting an operating mode (See Abstract of the '550 Patent, lines 1-10). The switching controller, as recited in Claim 1 of the present application, controls the first control circuit and the second control circuit to one of the first operation mode and the second operation mode in response to the load status of the output port. By contrast, the second controller of the '550 Patent is employed for turning on/off of the first controller to effect an operating mode/ very low power stand-by mode respectively.

(3) The configuration and operational principles of the proposed power supply in the present invention are different from those of the '550 Patent according to the analyses above. The '550 Patent does not anticipate/teach/suggest a switching controller employed to control a first control circuit and a second control circuit to one of a first operation mode and a second operation mode in response to a load status of an output port, as recited in Claim 1 of the present invention. Applicants respectfully submit that Claim 1 is not anticipated/taught/suggested by the '550 Patent.

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(4) Though comparing the advantages of the present invention over the '550 Patent is not appropriate since the configuration and operational principles of the present invention are different from those of the '550 Patent, the advantages of the present invention over the '550 Patent are set forth below to convincingly show that Claim 1 of the present application is indeed patentable. The switching controller recited in Claim 1 of the present application is employed to control the first control circuit and the second control circuit to one of a first operation mode and a second operation mode in response to a load status, which is sensed through a current sensor, for example current sensor (18) as shown in Fig. 2 of the present application, so as to realize a low standby loss for power converters (See paragraph [0008], lines 1-2, of the present application). By contrast, the second controller of the '550 Patent is employed only to turn off/on a first controller to selectively effect a very low power stand-by mode or operating mode as shown in Fig. 2 and described in the Abstract of the '550 Patent. Also, a microprocessor is coupled across a control output capacitor to control a selectively coupled load across a control output through three switches Sw1, Sw2 and Sw4 as shown in Fig. 2 and Claim 2 of the '550 Patent. Since an extra microprocessor and three switches are involved in the '550 Patent for detecting a selectively coupled load, the present invention, by comparison, allows for a simpler configuration and lower manufacturing costs. Accordingly, it is clear that Claim 1 of the present invention could not be anticipated, taught, or suggested by

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the '550 Patent.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the Section 102 rejection of Claim 1.

Claims 2-8 depend from claim 1, and are therefore also patentable over the cited reference. Further, claims 2-5 were indicated as including allowable subject matter and were only objected to as being dependent on a rejected base claim.

Claim 9 recites a control method for a power supply having a first operation mode and a second operation mode. Applicants respectfully submit that claim 9 is patentable over the '550 Patent for at least the reasons set forth above with reference to claim 1. Claims 10-13 depend from claim 9 and are therefore also patentable over the cited reference.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the Section 102 rejection of claims 9-13.

Claims 14-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hong et al. (US Patent No. 6,646,894) in combination with Shutts (US Patent No. 5,959,851). Applicants respectfully traverse this rejection.

Applicants respectfully submit that the present power supply having a first operation mode and a second operation mode, and including a main circuit having at least one output port, a voltage control oscillator, a driver, a controller processing a control signal to control the voltage control oscillator so as to operate the main

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circuit under one of the first operation mode and the second operation mode in response to a load status of the output port, and a standby circuit, as recited in claim 14 of the present application, is not disclosed by the '894 Patent in combination with the '851 Patent. The discussion below supports this conclusion.

(1) The proposed power supply of claim 14 is not taught/disclosed/suggested by the '894 Patent in combination with the '851 Patent. Neither of the cited references suggest or disclose a controller processing a control signal to operate a main circuit under one of a first operation mode and a second operation mode in response to a load status of an output port, as recited in Claim 14.

(2) The '894 Patent in combination with the '851 Patent do not teach/disclose/suggest that a controller is provided to operate the main circuit in response to a load status of the output port. The '894 Patent fails to teach/disclose/suggest that a controller is provided to operate the main circuit in response to a load status of the output port, but only discloses a mode discriminator (identified by the examiner as the operation mode controller, and also as item 400 in Fig. 1 of the '894 Patent) for sensing the reception of an external sync signal at the primary winding of the transformer and generating a signal for operating the main switch in normal operation or in standby mode according to whether or not the external sync signal is received (See Abstract, lines 9-14). The controller recited in claim 14 of the present application is employed to operate the main circuit in

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response to the load status of the output port, but the operation mode controller of the '894 Patent is employed for sensing the reception of an external sync signal at the primary winding of the transformer and generating a signal for operating the main switch in normal operation or in standby mode according to whether or not the external sync signal is received.

(3) The configuration and operational principles of the proposed power supply are different from those of the '894 Patent according to the above-mentioned descriptions and analyses. Furthermore, the '851 Patent only teaches the utilization of a similar technique for PWM to operate the main circuit and does not provide the disclosure deficient in the '894 Patent. Thus, the '894 Patent in combination with the '851 Patent do not teach/disclose/suggest that a controller is provided to operate the main circuit in response to a load status of the output port as recited in Claim 14 of the present invention.

(4) Applicants respectfully submit that the '894 Patent in combination with the '851 Patent fail to suggest or disclose the invention of claim 14.

(5) Though comparing the advantages of the present invention over the '894 Patent in combination with the '851 Patent is not appropriate since the configuration and operational principles of the present claimed invention are different from those of the '894 Patent and the '851 Patent, the advantages of the present claimed invention over the '851 Patent are set forth below to convincingly

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show that Claim 14 of the present invention is indeed patentable. The controller provided in the present invention is employed to operate the main circuit in response to the load status, which is sensed through a current sensor, for example current sensor (18) as shown in Fig. 2 of the present invention, so as to realize a low standby loss for power converters (see paragraph [0008], lines 1-2, of the present application). By contrast, the mode operation controller of the '894 Patent is employed to operate the main switch by sensing the reception of an external sync signal at the primary winding of a transformer, as shown in Fig. 1 and the Abstract of the '894 Patent. Thus the load status is sensed automatically and actively in the present invention as claimed in claim 14. By contrast, the status regarding the operation mode is controlled by the external sync signal, not inside the power supply, and sensed passively in the '894 Patent. The '851 Patent fails to provide the disclosure deficient in the '894 Patent, thus no comparison regarding the advantages of the present invention over the '851 Patent is made.

From the above, it is clear that Claim 14 of the present invention is not taught, disclosed, or suggested by the '894 Patent in combination with the '851 Patent. Applicants respectfully submit that claim 14 of the present invention is thus patentable over the '894 Patent and '851 Patent individually or combined.

Accordingly, Applicants request reconsideration and withdrawal of the Section 103 rejection of Claim 14.

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Claim 15 is similar to Claim 14 except that the voltage control oscillator for providing an operation frequency recited in Claim 14 is replaced by a pulse width modulator for providing a PWM signal. Referring to the above arguments, Claim 15 of the present invention is thus also patentable over the '894 Patent in combination with the '851 Patent.

Accordingly, Applicants request reconsideration and withdrawal of the Section 103 rejection of Claim 15.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §102 and 35 U.S.C. §103.

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.


In view of the foregoing remarks, Applicants respectfully submit that the present application, including claims 1-15, is in condition for allowance and a notice

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to that effect is respectfully requested.

Respectfully submitted,

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Enclosures